HAZUS HOT ZONE

July 2009 Issue

In This Issue

Two New Success Stories

Proving HAZUS Capabilities for Mitigation and Business Continuity Planning

Arkansas Tech University's use of HAZUS shows the benefits that the HAZUS data offers in microanalysis situations.

Jessica Lowther, Arkansas Tech University graduate student, conducted research for the purpose of encouraging the use of HAZUS-MH for mitigation and continuity of operations planning as well as aiding the state of Arkansas in a better understanding of the threat of tornadoes across the state.

Ms. Lowther conducted a comparative analysis between the default data supplied by HAZUS-MH and the user-supplied building and inventory data for a tornado at Arkansas Tech University (ATU). Her research asked the question, "Is an organization-specific building inventory data (termed as user-supplied or Level 2) necessary for planning for its survival and continuity of operations after a disaster, or is Level 1 default data sufficient?" In other words, will the quality and quantity of the data and the microanalysis of this user-supplied data greatly impact the hazard modeling results to reasonably advocate its collection and input into the model? The ATU tornado models illustrated that including user-supplied data allows for more precise results and, therefore, better planning. This research confirms the importance of hazard modeling and continuity of operations planning.

This research was made possible by a partnership with the Arkansas Department of Emergency Management (ADEM) and Arkansas Tech University (ATU). Each organization contributed Level 2 user-supplied data sets for input into HAZUS-MH.

This research was conducted simultaneously to the formation of the Arkansas HAZUS User Group. The purpose of the Arkansas HAZUS User Group (ARHUG) is to facilitate the use of the HAZUS-MH models for flooding and earthquake risk assessment in Arkansas and to form the basis for both pre- and post-disaster decision-making. By bringing together technical, policy, and emergency management specialists, the ARHUG will establish a solid risk assessment resource base for Arkansas.

Damage resulting from a tornado

HAZUS User Groups

Since 1997, HAZUS User Groups (HUGs) have been formed throughout the nation. The HUGs are led by volunteers. HUGs provide a mechanism for creating partnerships between public and private sector organizations and industry. Through HUGs, mutually beneficial alliances are formed, and goals and projects are identified.

International HUG

FEMA Region I
Northeastern HUG

FEMA Region II
New York Metropolitan Area HUG

FEMA Region III
Pennsylvania HAZUS Network
Three Rivers HUG
Southeast Pennsylvania HUG
National Capitol Region HUG
Delaware HUG
Maryland HUG
Mid-Atlantic HUG
Virginia HUG

FEMA Region IV
Alabama HUG
Florida HUG
(Southeast) HAZUS Technical Team
Southeast Regional Florida HUG (SERFHUG)
North Carolina HUG
South Carolina HUG

FEMA Region V
Central U.S. HUG

FEMA Region VI
Arkansas HUG
Louisiana HUG
Texas HUG

FEMA Region VII
Heartland HUG

FEMA Region VIII
Big Sky HUG
Salt Lake HUG

FEMA Region IX
Bay Area HUG
Southern California HUG
San Diego & Imperial County HUG
California Central Valley HUG
Hawaii HUG
Nevada HUG

FEMA Region X
Oregon HUG
Washington HUG

NCHUG: Incorporating HAZUS-MH Methodologies to Assist with Mitigation Planning and Hurricane Operations

Dare County, NC uses HAZUS in their updated mitigation plan to show the potential damages to infrastructure and buildings as well as potential economic impacts during wind events.

Jessica Phillips, Dare County, North Carolina Emergency Management Office Support Specialist and HAZUS-MH Program Manager, used HAZUS-MH to assist in the update to Dare County's hazard mitigation plan. Ms. Phillips used HAZUS-MH to show the potential damages to infrastructure, buildings and economic impacts that Dare County could sustain during wind related events.

Using HAZUS-MH proved to have benefits beyond the update to the mitigation plan. Ms. Phillips was able to demonstrate to Dare County leaders the capabilities of HAZUS-MH and how effective it could be prior to and during a disaster event such as a hurricane. Ms. Phillips showed how HAZUS-MH can be used to illustrate sheltering needs, as well as potential infrastructure or building damages.

New HAZUS User Group Logos

A new logo has been designed for each of the HAZUS User Groups. The logos feature an oval shape, a graphic highlighting the FEMA Region where the HUG is located and a star signifying the location of the HUG. The logos can be seen on many of the individual HUG web pages and print materials.

Mike Scott 2009 3rd Quarter HAZUS User of the Year

Mike Scott

Congratulations to Dr. Michael Scott of Salisbury University, the 2009 3rd Quarter HAZUS User of the Year. Dr. Scott has been a forerunner nationwide in using HAZUS-MH. As the Director of the Eastern Shore Regional GIS Cooperative (ESRGC) at Salisbury University, he was an author and a leader in the "An Assessment of Maryland's Vulnerability to Flood Damage" project. This project was one of the first statewide HAZUS-MH Level I analyses to be completed. The report provides a systematic examination of the vulnerability of Maryland's built environment to riverine and coastal flooding utilizing HAZUS-MH.

Dr. Scott uses HAZUS-MH to explore a wide range of flooding issues and includes his undergraduate geography students in this process. Working with the students, they look at the data, operate the model, troubleshoot errors, and explore the best way to communicate the results. Dr. Scott believes that because the HAZUS-MH program can be operated in discrete steps, it is easy to break it down for an undergraduate and thus enhance their understanding of flood processes and geographic information science.

Dr. Scott is also the point of contact for the Maryland HAZUS User Group (MDHUG) and takes advantage of every opportunity to share information about HAZUS-MH, emphasizing its capabilities and usefulness to communities. He has presented at workshops and conferences, such as 2009 TUgis (Towson University Department of Geography and Environmental Planning, annual Geographic Information Sciences Conference), in an effort to build and grow the HAZUS-MH user community. He has also presented on GIS and HAZUS-MH to floodplain managers during the E-273 course in Maryland explaining how HAZUS-MH can help them. He has also supplied "HAZUS-friendly" local data for a FEMA Region III pilot project.

Michael Scott's motivation and enthusiasm for HAZUS-MH and his leadership of the Maryland HAZUS User Group make him an outstanding HAZUS-MH champion. FEMA is proud to recognize Michael Scott as the 2009 3rd Quarter HAZUS User of the Year.

HAZUS Trained Professionals

Emergency managers and GIS professionals who attain the HAZUS-MH Trained Professional designation have demonstrated a proficiency in the use of the model, including an understanding of the underlying data structure. HAZUS Trained Professional Track: Provides a foundation of basic HAZUS-MH skills plus focused instruction on at least one hazard.

- E190 ArcGIS for Emergency Managers (prior GIS experience may substitute)
- E313 Basic HAZUS-MH
- E317 Comprehensive Data Management
- Minimum of ONE of the following: E170 HAZUS-MH for Hurricanes; E172 HAZUS-MH for Floods; or E174 HAZUS-MH for Earthquakes

Congratulations to the all of the individuals who have reached the level of Trained Professional.

Kingsley M. Allan, University of Illinois
Melony Barrett, University of Illinois
William Booth, Defense Threat Reduction Agency
Richard N. Burgess, FEMA Region IV
Danielle Calhoun, Environment & Engineering, Inc.
Stephen W. Cowdin, CA Deparment of Water Resources
Sean Donovan, FEMA Region V-GIS Lead
Sue Evers, FEMA Region 7
Tracy Ferguson, US Coast Guard-Maritime Security and Infrastructure Protection
Kathleen E. Fischer, Yurok Tribe-Planner
Joshua S. Friedman, Hazard Impact Modeler, GIS Division
Lisa Graff, University of Illinois
Vanessa Glynn-Linaris, FEMA Region 3
John Ingargiola, FEMA Headquarters
Tom LeBlanc, Texas Governor's Division of Emergency Management
Michael Lowry, Meteorologist, Northrop Grumman Information Systems
Shanna Michael, AECOM
Robert B. Murray, HDR Engineering Inc, CA
Carole L. Neidich-Ryder, Bowne AE & T Group
Rodney Odom, FEMA Region VII
Jessica Phillips, Dare County, NC
Stacy Robinson, PBS&J
Philip Schneider, National Institute of Building Sciences
Mohamad Sleiman, FEMA Region 4
Lynn Seirup, New York City Office of Emergency Management
Brian Shumon, FEMA Region 2
Scott Wade, East Carolina University
Samuel Moses Wilkins, FEMA Region IV-Mitigation Division

HAZUS User Group Updates

HUGs nationwide have been busy with outreach, training and HAZUS projects. The FEMA Region 4 HAZUS Technical Team led by Rick Burgess and Moses Wilkins has conducted outreach in all eight states in their Region. They have recently offered several EMI certified regional HAZUS training courses and have more scheduled for this fall. In addition, they are proud to announce the formation of the Alabama HAZUS User Group.

The North Carolina HUG is planning their first in-person meeting for the third day of the National HAZUS Conference. This two-hour meeting will feature updates from HUGs throughout the nation and the HAZUS Higher Education Resources Clearinghouse. The NCHUG is proud to distribute their first success story, "Incorporating HAZUS-MH Methodologies to Assist with Mitigation Planning and Hurricane Operations."

The Pennsylvania HAZUS Network is making good use of their USEHAZUS Forum thread to discuss the future of their group and to give members an opportunity to introduce themselves.

The Arkansas HUG coordinated by Ed Leachman through Arkansas Tech University is conducting a statewide inventory update. They have the capability for thirty-five people to run HAZUS in a virtual environment and are working toward expanding this capability in the coming year. Arkansas Tech University supports all of the counties in the state with HAZUS runs upon request.

The Nevada HUG used CDMS to update the demographics in HAZUS to 2005 statewide demographics. They also updated all essential facilities data. They used the new data sets to update the file reports of previously conducted statewide earthquake analyses. Ron Hess has posted the earthquake risk and flood risk reports run with the new data sets to the Nevada Bureau of Mines and Geology website.

The San Diego and Imperial County HUG had a meeting, led by Bruce Ferguson, at the ESRI Conference on July 15th with over a dozen participants.

Nick Delmedico from FEMA Region 10 shared on a National HAZUS User Group conference call that the region has been working in Alaska running a HAZUS model for ice jams and then trying to ground truth the reports. **Upcoming HUG Meetings** include the Heartland HUG meeting on August 18th in Topeka Kansas and the SoCalHUG meeting on September 24th in the City of Riverside, CA. The BAHUG and CA Central Valley HUG are having a joint meeting on September 8th at the Floodplain Management Association conference in San Jose, California.

Upcoming regional training opportunities include two EMI certified HAZUS courses at Loma Linda University, a Basic HAZUS Course beginning on August 24th and a Comprehensive Data Management Course beginning on September 21st.

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